

Appl. No.: 10/035,348  
Amdt. Dated: 10/12/2005  
Off. Act. Dated: 08/04/2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-39 (canceled)

40. (original): A concurrent, multicast communication method for transmitting data packets over a network of interconnected nodes, comprising:

multicasting a message from a source node to a receiver group;

unicasting a control message from a source node across a primary node to an ordering node for a designated multicast group or transmission, wherein said primary node aggregates messages from their subtrees and hence staggers the ordering process upward within the tree;

determining a binding sequence number for this message and a multicast to the receiver group; and

delivering messages at end hosts according to agreed-upon sequence numbers.

41. (original): A method as recited in claim 40:

wherein said messages are delivered in an order agreed-upon by all hosts.

42. (original): A method as recited in claim 40:

wherein each node  $i$  in an acknowledgment-tree is labeled with a unique label  $l(i)$ , which is the prefix of all children of  $i$ .

43. (original): A method as recited in claim 40:

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wherein, for each set of messages destined to a particular multicast group, or set of hosts, an ordering node is elected by virtue of being the node having label that is the longest common prefix among all node labels in the receiver set.

44. (original): A method as recited in claim 43:

wherein each ordering node gathers sequence number bids set *en route* by primary nodes deciding on a globally valid number, and multicasts the respective message to the receiver set with a final and binding sequence number directive.

45. (original): A concurrent, multicast communication method for transmitting data packets over a network of interconnected nodes, comprising:

multicasting a message from a source node to a receiver group;

unicasting a control message from a source node across a primary node to an ordering node for a designated multicast group or transmission, wherein said primary node aggregates messages from their subtrees and hence staggers the ordering process upward within the tree;

determining a binding sequence number for this message and a multicast to the receiver group; and

delivering messages at end hosts according to agreed-upon sequence numbers; wherein said messages are delivered in an order agreed-upon by all hosts.

46. (original): A method as recited in claim 45:

wherein each node  $i$  in an acknowledgment-tree is labeled with a unique label  $l(i)$ , which is the prefix of all children of  $i$ .

47. (original): A method as recited in claim 45:

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wherein, for each set of messages destined to a particular multicast group, or set of hosts, an ordering node is elected by virtue of being the node having label that is the longest common prefix among all node labels in the receiver set.

48. (original): A method as recited in claim 47:

wherein each ordering node gathers sequence number bids set *en route* by primary nodes deciding on a globally valid number, and multicasts the respective message to the receiver set with a final and binding sequence number directive.

Claims 49-54 (canceled)

55. (original): A method as recited in claim ~~[[53]]~~ 47:

wherein each node  $i$  in an acknowledgment-tree is labeled with a unique label  $l(i)$ , which is the prefix of all children of  $i$ .

56. (original): A concurrent, multicast communication method for transmitting data packets over a network of interconnected nodes, comprising:

multicasting a message from a source node to a receiver group;

unicasting a control message from a source node across a primary node to an ordering node for a designated multicast group or transmission, wherein said primary node aggregates messages from their subtrees and hence staggers the ordering process upward within the tree;

determining a binding sequence number for this message and a multicast to the receiver group;

delivering messages at end hosts according to agreed-upon sequence numbers;

wherein said messages are delivered in an order agreed-upon by all hosts;

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wherein, for each set of messages destined to a particular multicast group, or set of hosts, an ordering node is elected by virtue of being the node having label that is the longest common prefix among all node labels in the receiver set; and

wherein each ordering node gathers sequence number bids set *en route* by primary nodes deciding on a globally valid number, and multicasts the respective message to the receiver set with a final and binding sequence number directive.